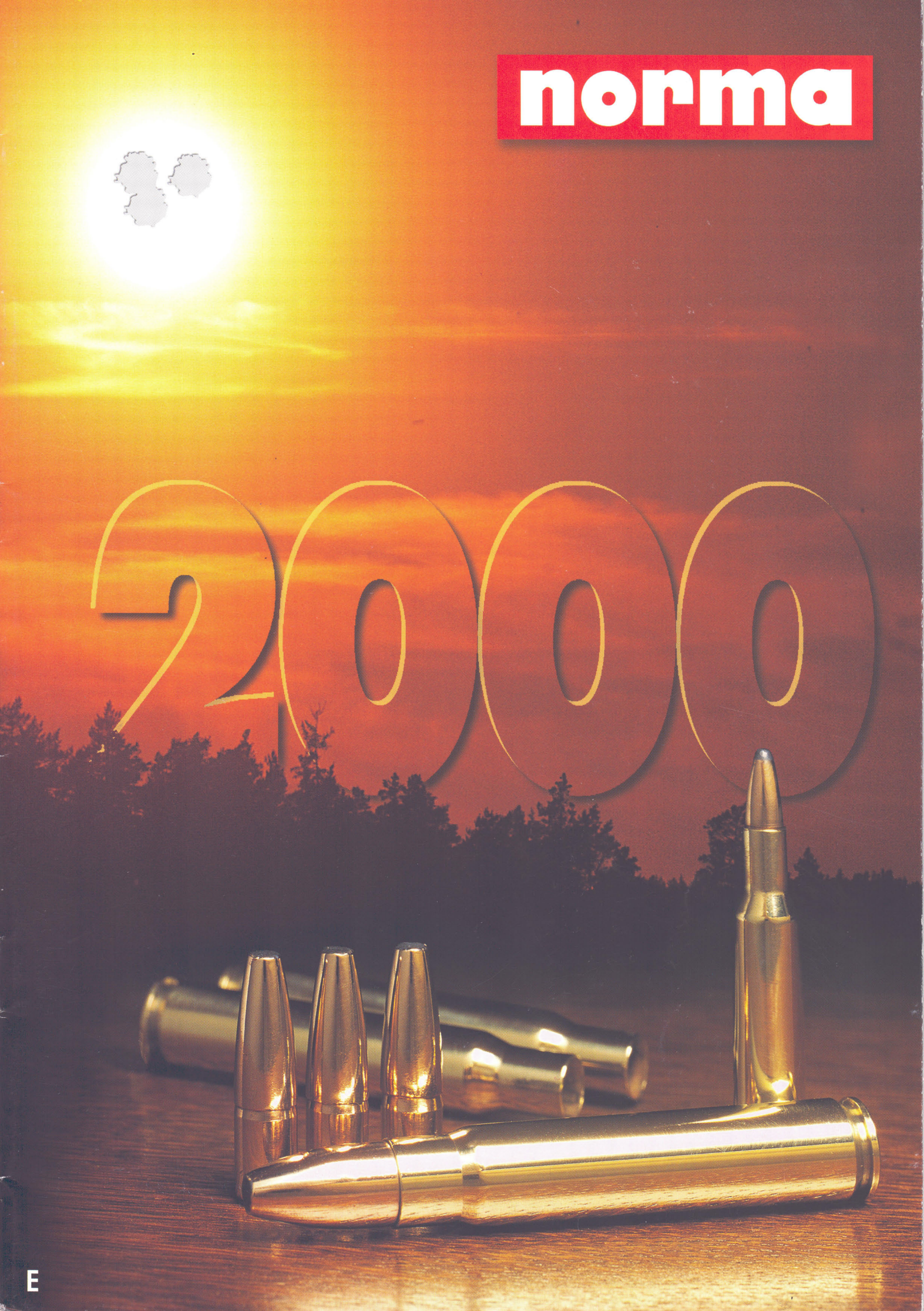
norma

2000



E

The deep forest
Norma´s neighbourhood

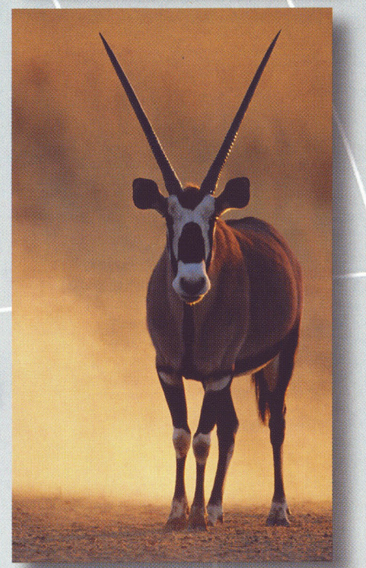
The mist has silently settled during the night and will soon lift again. The air is clear and we take a deep breath. As the sun slowly rises behind the forests pine and spruce trees, a majestic bull moose suddenly steps into the clearing! A quarry that entices hundreds of thousands of hunters every year. This is a fair picture of a typical daybreak in the Swedish countryside. An ordinary day in the Northern forest.
The environment where we at Norma live and work.

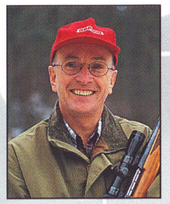
Concept 2000 and the Future

Norma´s business concept is to manufacture and market superior quality hunting and target ammunition and components. Our objective is to occupy a leading position regarding product development in terms of functionality, reliability, accuracy and performance. World wide Norma will guarantee reliable distribution and product service.

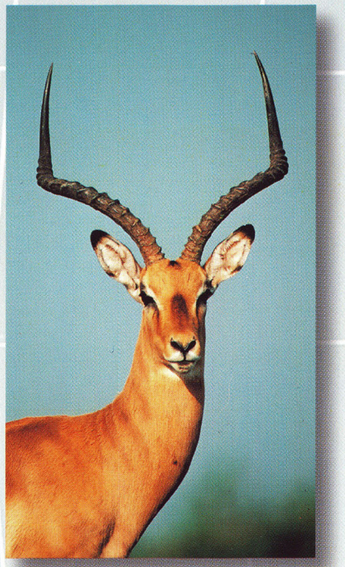
We attach great significance toward development of new and superior products for all sporting purposes. Our objective is to make Norma ammunition, service and know-how available on all markets.

In accordance with the spirit of future development, we have made a new box for our hunting ammunition. We will phase out the characteristic wood-grain pattern box, which established Norma´s name through decades of faithful service. However, in deference to that pattern´s history and representation of Norma´s genuine expertise, craftmanship and quality, we will retain a part of it on the new box. With 100 years of tradition behind us we have chosen to enter the next millenium with a new profile and new products.





TORBJÖRN LINDSKOG CEO, NORMA PRECISION AB



norma

Zeroed-in on the year 2000

Cape Buffalo? Moose? Lion? Deer? Bear? Antelope or Wild Boar?

Today Norma products are highly regarded by hunters all over the world. In response to ever changing and varied needs of hunters and target shooters, our product development department is constantly facing new challenges. Our selection of hunting and target ammunition rivals any manufacturer´s. Nevertheless, we have redoubled our effort toward the development of new products. Most recently we have added the Oryx and Trophy XP hunting ammunition lines, the latter in such big game cartridges as .416 Rigby and .458 Win Mag.

These outstanding bullet designs will ensure Norma´s position amongst the leading ammunition manufacturers of the world.

For many decades Norma has enjoyed an excellent and well-deserved reputation amongst target and competitive shooters. Norma´s Diamond Line and the 6 mm Norma BR are examples of the results of successful collaboration between elite competitors, gun manufacturers and Norma engineers. Recently this collaboration has resulted in two new world records and several championship trophies. Such achievements encourage and invigorate continuing developmental work.

Ever since its foundation almost a 100 years ago, Norma has continuously improved on the performance of its products. In the 1950s and 1960s product development gained momentum under Mr. Nils Kvale´s dynamic leadership. He was the designer of the famous cartridges .308 Norma Magnum and .358 Norma Magnum. During this era Norma´s line of products expanded dramatically. Exports grew and the Norma name gained world wide fame.

Due to its reputation of outstanding quality Norma has a long tradition of subcontracting to other ammunition and gun manufacturers. Among these is a solid 40-year collaboration with Weatherby Inc. Due to the joint efforts of Nils Kvale and the legendary Roy Weatherby Norma remains to this day, Weatherby´s sole ammunition supplier.

In 1990 Norma became a member of the German Dynamit Nobel Group, one of the world´s largest sporting ammunition companies.

During almost a century Norma has developed a unique storehouse of knowledge and expertise to the benefit of hunters and target shooters. The demand for higher quality is increasing everywhere, with hunters and marksmen being no exception. Norma is prepared to face this challenge.

Quality and field testing

In total Norma´s quality inspection comprises more than 30 controls during the production of each cartridge. The cartridge´s performance is verified in our ballistics lab, including: pressure, barrel time, velocity, accuracy and uniformity. The hunting bullets are tested in ballistic gelatin. Penetration, expansion and weight retention are measures that verify performance. Accuracy of target ammunition is tested at 300 metres. Many Norma employees are competitive target shooters and hunters, which encourages dedication to quality and precision.

Purveyor to His Majesty The King of Sweden

Norma is purveyor of ammunition to His Majesty The King of Sweden.
This appointment is based upon merit, of which we are quite proud.

Norma´s Total Concept for Hunters and Target Shooters

Norma´s wide range of products offers every hunter a selection of ammunition that suits his needs.

It is impossible precisely to predict a bullets terminal performance in every case. The effect depends upon the individual contribution of a number of variable factors such as: velocity upon impact, bullet placement, the course of expansion and the animals physiology (even including adrenalin levels!). Accordingly we offer information regarding Norma´s various hunting bullets, including design criteria, structural similarities and details in which these differ.

VULKAN expands rapidly and produces excellent results on medium-sized game with classic lung shots. Intended to deliver 100% of kinetic energy to target. With proper shot placement, Vulkan bullets cause massive tissue damage and kill very quickly. No exposed lead at the bullet tip – this prevents bullet deformation during handling, recoiling and chambering.

ALASKA is the oldest Norma hunting bullet. It has felled hundreds of thousands of Nordic moose. Compared to corresponding Vulkan bullet, mushrooming is slower and penetration somewhat greater. Alaska has been the bullet of choice for many hunters of larger non-dangerous game species.

The **PLASTIC POINT** bullet provides the most powerful expansion in our range. The front section of the jacket has cleaving zones which contribute to rapid expansion. As the name implies, the bullet has a plastic point, providing protection from deformation in the magazine.

ORYX is designed to combine rapid expansion, high weight retension and deep penetration – even through heavy bone. Jacket and core are soldered together. This prevents separation and ensures increased penetration. Oryx has proven highly effective against various sized game at all ranges. The Oryx line is quickly gaining popularity with hunters of moose, bear, wild boar and larger African antelope species.

TROPHY XP LINE is loaded with Swift´s A-frame, a bonded-core, partitioned bullet. The bullet is designed for heavy and dangerous game in less than favourable hunting conditions, such as the necessity for shots taken at difficult angles. The course of expansion is controlled, preventing the bullet from disintegrating. The subsequent high weight retention ensures extra-deep penetration.

Norma's foremost strength

is that we can provide a complete line of superior ammunition and components for hunting and target shooting, for both rifle and handgun. This means we can make immediate use of experience gained from one field in another.

DIAMOND LINE is a result of development work in our match competition range. Diamond Line ammunition uses moly-coated bullets. This process has established a reputation for superior performance among the world´s elite marksmen. An increasing number of civil and military match competition marksmen are embracing the 6 mm Norma BR. Modest recoil and reduced wind sensitivity are benefits of this cartridge that can improve target shooting results.

ELIT is a Norma classic used by National Match competitors and available in both shooting range and field versions. This traditional loading delivers excellent accuracy in most rifles. For practice shooting, Norma offers the economical **SILVERTORPED**.

NORMA PISTOL & REVOLVER AMMUNITION ranges from .32 S&W to .44 Magnum. After a significant design change the .32 S&W wadcutter load is now more accurate than ever. Accuracy and reliability keep Norma 9 mm TC load in a revered market position for law inforcement personnell.

The quality of Norma components is one of the most important contributing factors to our worldrenowned reputation.

NORMA CASES ranging from .222 Remington to 470 Nitro Express, are world-famous for exceptional quality.

NORMA POWDER is famous for its stringent performance and lot-to-lot uniformity. Existing numbers adequately cover most sporting cartridge applications. Significantly, Norma powders frequently provide the best overall performance in any given load.

Norma offer the handloaders a wide selection of **BULLETS** for hunting and competition shooting.

Norma maintains an ongoing collaboration with hunters, competition shooters, handloaders, police and military marksmen world wide. This has provided a vast wealth of data, which we use continuously to improve our product line.

TROPHY XP LINE

Pure lead core
Lead core soldered into copper jacket
Thin forward jacket section
Thick rear jacket section
Crimping increases dependability
Jacket partition, prevents overexpansion

We developed the new Norma big game hunting line for the hunter who craves something extra. These superior bullets overcome the toughest resistance after impact.

The Trophy XP Line bullets deliver exceptional penetration and are especially useful against thick-skinned game. The bullets are engineered for controlled expansion, maximum weight retention and unusually deep penetration.

Swift A-frame™ in the following calibres:

- 6,5x55 . . . . . 10,1 g/156 gr
- .300 Win. Mag. . . . 11,7 g/180 gr
- .308 Win. . . . . 10,8 g/165 gr
- .30-06 . . . . . 11,7 g/180 gr
- .375 H&H Mag. . . . . 19,4 g/300 gr
- .416 Rigby . . . . . 25,9 g/400 gr
- .458 Win. . . . . 32,4 g/500 gr

Jens E. Perto is one of Denmark´s leading hunting and gun experts. He has a preference for challenging hunting experiences. Here seen with a West African buffalo, killed with a .416 Rigby.

His demands for a big game cartridge are:

> The task of a hunting bullet is to cause as much mechanical damage to the vital parts of the animal as possible, in order to lower the blood pressure quickly. Hereby the flow of oxygen to the brain will stop, causing death.

In order to kill medium sized and big game quickly and safely, the bullet must effectively penetrate the vital parts. The larger the wound channel, the faster the drop in blood pressure.

To ensure penetration and consequent damage to the vital parts, a controlled expansion is essential. The bullet must also show a high retention of weight, irrespective of the amount of hard bone it may encounter during its passage through the animal´s body.

Accordingly a big game bullet must provide maximum penetration power via mechanical locking and/or soldering the jacket to the lead core. By choosing a large calibre with a heavy bullet, a sizeable wound channel can be attained, resulting in a quick kill of even the largest game.

Jens E. Perto
HUNTER DENMARK

ORYX

Everything indicates that Oryx will become the hunter´s new favorite. Soldering of the jacket and core prevents separation and fragmentation, which increases penetration.

The May 1997 issue of *Vapentidningen*, a leading Scandinavian gun magazine, contains an extensive test of 33 different .30-06 hunting loads from nine manufacturers. The Norma Oryx produced the greatest expansion in combination with an extraordinary high weight retension (exceeding 90%). Such performance is characteristic of the entire Oryx line and results in a wide wound channel with minimal damage to edible meat. Oryx is suitable for large- and medium-sized game, such as moose, elk, black bear, wild boar and deer.

CALIBERS:	Bullet weight
• 6,5x55	10,1 g/156 gr
• 7x65 R	11,0 g/170 gr
• 7 mm Rem. Mag.	11,0 g/170 gr
• 7x64	11,0 g/170 gr
• .280 Rem.	11,0 g/170 gr
• .308 Win.	11,7 g/180 gr
• .30-06	11,7 g/180 gr
• .30-06	13,0 g/200 gr
• .300 Win. Mag.	13,0 g/200 gr
• 8x57 JS	12,7 g/196 gr
• 8x57 JRS	12,7 g/196 gr
• 9,3x62	15,0 g/232 gr
• 9,3x74 R	15,0 g/232 gr

> I have long-since come to believe that serious sportsmen should never go into the hunting grounds with anything but the best possible ammunition. It simply makes no sense to trust the success of an expensive hunt to the vagaries of conventional cheap hunting bullets.

Oryx offer a reliable solution – the bonded-core hunting bullet. The secret to the Oryx bullet´s superior performance is intimate core-to-jacket soldering. This provides a double advantage: first, jacket and core can´t separate, the jacket, therefore, supports the core against excess expansion; second, the core holds the jacket, limiting jacket fragmentation. This

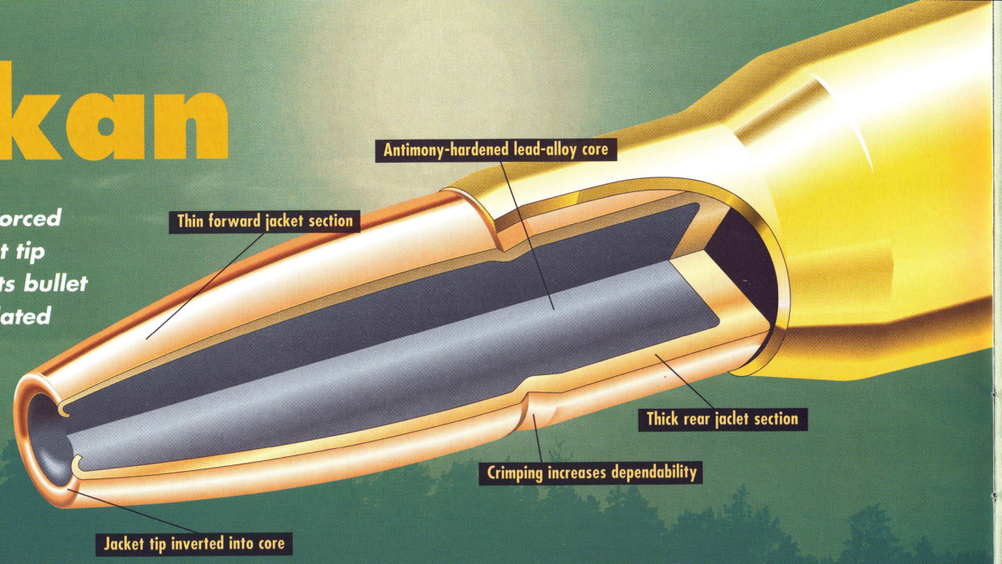
interaction allows Norma´s designers to create bullets with a unique combination of properties: consistent and dependable expansion across a wide range of impact conditions; limited fragmentation (weight loss) under any impact condition.

I killed my first moose, a 20 month old bull, using Norma´s Oryx 9,3x62 mm load. The bull was quartering toward me at about 120 yards. The bullet hit in front of the shoulder, found the spine, busted several vertebrae, punched through the diaphragm, and lodged in the off-side of the hind-quarters – the moose was dead before the bullet stopped. Despite encountering seriously heavy bone, that bullet retained most of its weight and delivered massive damage to the vitals. Exemplary performance no conventional bullet could possibly have matched. Whether your game is deer, elk, moose or bear, for North-American hunting, Norma´s Oryx line offers unsurpassed dependablity.

M.L McPherson, Colorado
EDITOR OF CARTRIDGES OF THE WORLD

Vulkan

Vulkan bullet is reinforced by inversion of jacket tip into core. This protects bullet from deformation related to handling, recoil and rechambering. Vulkan rapidly expands and deliver 100% of its kinetic energy inside target.



CALIBER:	Bullet weight
• 6,5x55	9,0 g/139 gr
• 6,5x55	10,1 g/156 gr
• 7 mm Rem. Mag.	11,0 g/170 gr
• 7x64	11,0 g/170 gr
• 7x65 R	11,0 g/170 gr
• .280 Rem.	11,0 g/170 gr
• .300 Win. Mag.	13,0 g/200 gr
• .30-06	11,7 g/180 gr
• .30-06	13,0 g/200 gr
• .308 Win.	11,7 g/180 gr
• .308 Win.	13,0 g/200 gr
• .308 Norma Mag.	13,0 g/200 gr
• 8x57 JS	12,7 g/196 gr
• 9,3x57	15,0 g/232 gr
• 9,3x62	15,0 g/232 gr
• 9,3x74 R	15,0 g/232 gr

Report from Mr. F. Gottschalk, a dedicated hunter.

It is late autumn, I am in Vorpommern, Germany. Wild boar hunting is in full swing. I sit in my stand overlooking a marsh dotted with alders that is surrounded by dense islands of reeds. In front of me, in the distance, the dogs are barking. Stationary at first, then they begin to move toward me – the quarry moves my way! The beat approaches, occasionally halting, then continuing. Suddenly, things happen very fast. An exceptionally large boar (or Hauptschwein, as we Germans usually say) charges from the undergrowth. He continues past a ditch, then stops.

I take aim, my trigger finger tightens. Now I put my trust in the Norma Vulkan bullet. The shot echoes and the boar begins to run forward once more. After a few metres he falls, ploughing up the soft ground with his

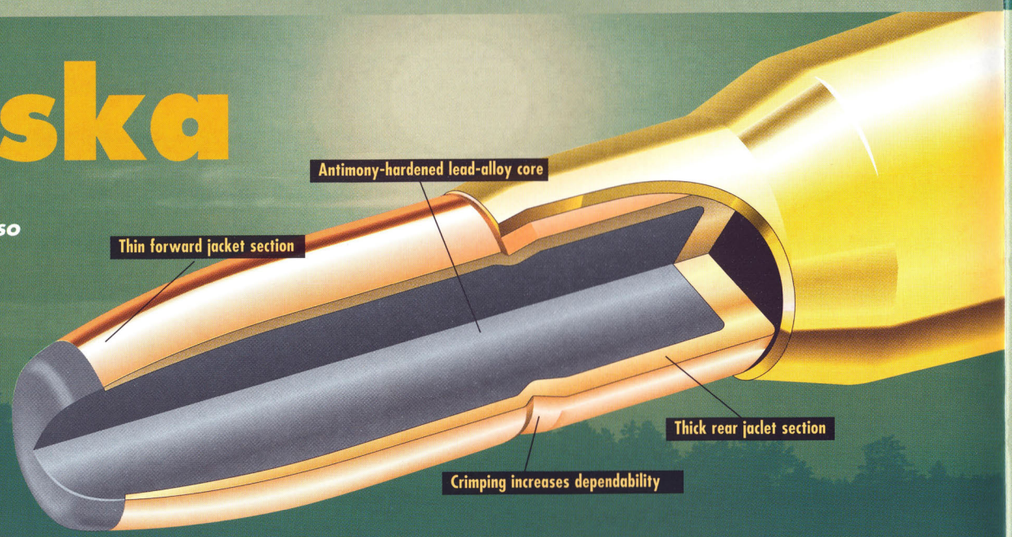
snout, gets up again, staggers a few steps and falls for the last time.

When I get over to him he is already dead. A lungshot, a little high, which has angled through the body and out behind the shoulder blade. The exit hole is no larger than a small coin. The Vulkan bullet "the deadliest mushroom in the forest" has done its job, as always.

Fritz Gottschalk
HUNTER GERMANY

Alaska

A Norma classic. Also provides smooth expansion and dependable maximum mushrooming.



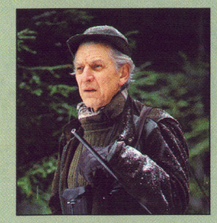
CALIBER:	Bullet weight
• 6,5 Jap	10,1 g/156 gr
• 6,5 Carcano	10,1 g/156 gr
• 6,5x55	10,1 g/156 gr
• .30-06	11,7 g/180 gr
• .308 Win.	11,7 g/180 gr
• 8x57 JRS	12,7 g/196 gr
• 9,3x57	18,5 g/286 gr
• 9,3x62	18,5 g/286 gr
• 9,3x74 R	18,5 g/286 gr

Hunting veteran with 59 year's experience

Johnny Rülcker is a former forestry district manager from Uddeholm, Hagfors in Sweden.

I have never felt inclined to boast about how much game I have shot over the years. However, I have keept a hunting journal since I began to hunt 59 years ago. I would say I have shot about 2,000 hoofed game, mostly moose.

I have always used Norma factory loaded cartridges or handloaded my cartridges using Norma components. My favourite is Alaska with its excellent accuracy and striking energy.



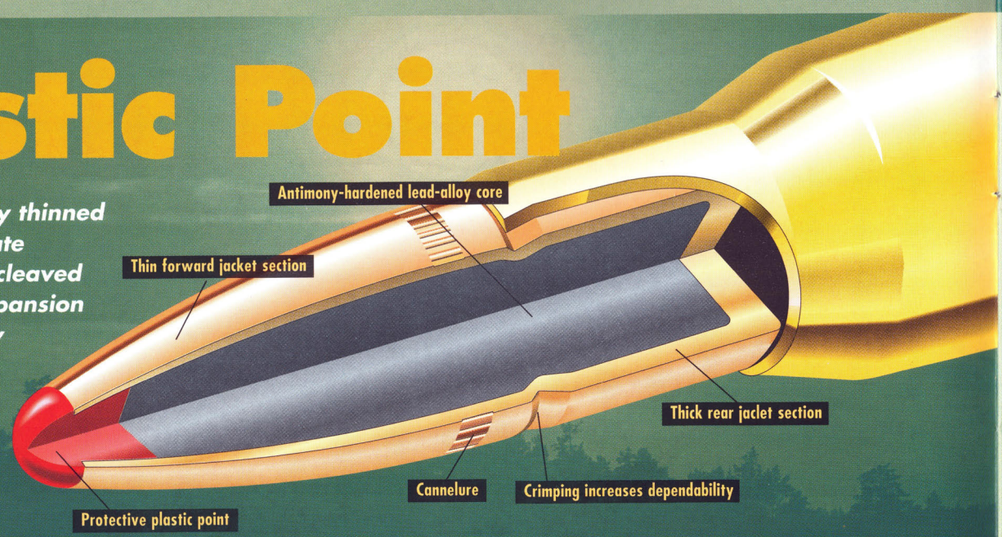
For the past 30 years my wife and I have hunted regularly in Germany. When we first arrived and explained that we used the 6.5x55 to hunt moose in Sweden, our German hosts were horrified.

However, when they witnessed the results they were astonished. And no-one has since questioned our choice of calibre.

Johnny Rülcker
HUNTER, SWEDEN

Plastic Point

The jacket is carefully thinned in the nose to facilitate expansion. Core tip cleaved for more reliable expansion across wider velocity range. Plastic point provides effective protection against deformation during handling, recoil and chambering.



CALIBER:	Bullet weight
• 7 mm Rem. Mag.	11,0 g/170 gr
• 7x64	11,0 g/170 gr
• 7x65 R	11,0 g/170 gr
• .280 Rem.	11,0 g/170 gr
• .300 Win. Mag.	11,7 g/180 gr
• .30-06	11,7 g/180 gr
• .308 Win.	11,7 g/180 gr
• 9,3x62	18,5 g/286 gr
• 9,3x74 R	18,5 g/286 gr

Hunting report from Spain

Dr. Euardo Romero lives in Madrid near the Léon district and is one of Spain's most renowned hunters. Having hunted the world over, he has taken every kind of hunting trophy imaginable. Dr. Romero habitually uses Plastic Point cartridges.

Once a wild boar turns on your dog, you need more than a heavy calibre to stop to it. You need an efficient bullet. I have found the perfect answer in the Norma Plastic Point. This is, without question, the best solution to angry wild boar, and has frequently proved invaluable when an opportunity for acquiring a fine trophy has come along.

Dr. Eduardo Romero
HUNTER, SPAIN

Jaktmatch for practice - competition - hunting

A hunter is always responsible for every bullet he fires during the hunt. The first shot is frequently fired under favourable conditions, but it is not always possible to find the same excellent opportunity twice, thrice or more often.

This is why practice shooting is so important. Practice results in better safety and more natural and relaxed handling of guns.

Norma Jaktmatch is an economical alternative for practice shooting and is made with the same attention to quality as all our other cartridges. Easy loading for non-stop training, with no unnecessary strain imposed on the shooter or the gun.

Jaktmatch cartridges come in a variety of calibres. Bullet ballistics correspond well with equivalent Norma hunting cartridges when fired on the moving target range.

Guns have different properties and so different cartridge types frequently result in different accuracy and zeros. Check for differences in your target grouping with a few rounds of the ammunition you intend to use for hunting.

In countries where shooting matches are arranged for hunters, our high quality Jaktmatch competition cartridge performs with excellent results.

norma
VIKTIGT! Beroende på det enskilda vapnets egenskaper, ger olika patrontyper ofta olika trafflagen.
Kontrollera därför alltid inskjutningen vid varje ny ask patroner.
JAKTMATCH® .30-06

The hunting cartridge

Norma is one of the few manufacturers to supply full metal jacket ammunition for long range bird and small game shooting.

Jaktmatch is a true high-class hunting cartridge and a good choice when hunting requires high accuracy.

Hunting with Jaktmatch

Once the hunting season for moose and small game is over, the time for comes for my dog Satanta and I to go hunting for forest game birds. This requires a well sighted-in gun and high-precision ammunition. The target presented by either a capercaillie or Black Grouse in a tree top is no larger than a clenched fist and I usually only get one shot.

The .222 Remington suits me best and, using Jaktmatch, I have always found everything works perfectly. It is always an advantage to be able to practice with the same cartridge used for hunting.

When hunting for small game the Jaktmatch is excellent and inflicts only minor damage to pelts.

Roger Björnson
HUNTER, SWEDEN

Caliber	Bullet type Bullet weight Ref. no.	Ball. co-effi-cient	Velocity feet/sec. Muzzle	$V_{100\ yds}$	$V_{200\ yds}$	$V_{300\ yds}$	Zero range, yards	Height of trajectory above line of sight if sighted in at ⊕ yards. For sights 1.6 inch. above bore. 50 yds	100 yds	150 yds	200 yds	300 yds	Wind drift in inches for a 10 m.p.h. cross wind. 100 yds	200 yds	300 yds
.22 LONG RIFLE	Lead, round nose 2.6 g / 40 gr Ref. no. 15612	–	1066	–	–	–	–	–	–	–	–	–	–		
.222 REM.	Full jacket 3.2 g / 50 gr Ref. no. 15715	.192	3199	2693	2240	1833	100 150 200	-0.3 0.0 0.5	⊕ 0.6 1.6	-0.9 ⊕ 1.5	-3.3 -2.0 ⊕	-13.5 -11.7 -8.7	1.5	6.5	16.0
6,5x55	Hollow point 6.5 g / 100 gr Ref. no. 16527	.322	2625	2354	2100	1862	100 150 200	-0.1 0.4 1.1	⊕ 1.0 2.4	-1.5 ⊕ 2.1	-4.7 -7.5 ⊕	-17.3 -14.4 -10.3	1.3	4.8	11.4
	Full jacket "Elektron" 9.0 g / 139 gr Ref. no. 16525	.583	2625	2474	2327	2186	100 150 200	-0.1 0.3 0.9	⊕ 0.9 2.0	-1.3 ⊕ 1.8	-4.1 -2.4 ⊕	-14.6 -12.0 -8.5	0.6	2.5	5.8
7 MM REM. MAG.	Full jacket 9.7 g / 150 gr Ref. no. 17026	.443	2995	2780	2574	2378	100 150 200	-0.3 0.0 0.5	⊕ 0.6 1.5	-0.9 ⊕ 1.3	-2.9 -1.8 ⊕	-11.1 -9.4 -6.7	0.7	2.8	6.5
.30-06	Full jacket 9.5 g / 146 gr Ref. no. 17651	.422	2772	2557	2353	2158	100 150 200	-0.2 0.2 0.7	⊕ 0.8 1.9	-1.1 ⊕ 1.7	-3.7 -2.2 ⊕	-13.8 -11.5 -8.2	0.8	3.3	7.7
.308 WIN.	Full jacket 9.5 g / 146 gr Ref. no. 17622	.441	2657	2457	2266	2083	100 150 200	-0.1 0.3 0.9	⊕ 0.9 2.1	-1.3 ⊕ 1.8	-4.2 -2.4 ⊕	-15.1 -12.5 -8.9	0.8	3.3	7.7
8x57 JS	Full jacket 8.0 g / 123 gr Ref. no. 18009	.191	2821	2355	1936	1568	100 150 200	-0.2 0.3 1.0	⊕ 1.0 2.4	-1.4 ⊕ 2.1	-4.8 -2.9 ⊕	-19.0 -16.1 -11.8	1.8	7.8	19.4
9,3x57	Full jacket 15.0 g / 231 gr Ref. no. 19306	.382	2215	2007	1811	1629	100 150 200	0.2 1.0 1.9	⊕ 1.6 3.5	-2.3 ⊕ 3.0	-7.1 -4.0 ⊕	-24.8 -20.1 -14.1	1.2	5.1	12.0
9,3x62	Full jacket 15.0 g / 231 gr Ref. no. 19318	.381	2510	2287	2075	1875	100 150 200	0.0 0.5 1.2	⊕ 1.1 2.5	-1.6 ⊕ 2.2	-5.1 -2.9 ⊕	-18.2 -15.0 -10.6	1.0	4.2	9.9

50 cartridges/boxes.

Handloading

For many hunters and match competitors, handloading is an interesting and instructive hobby. It enables the customizing of cartridges according to personal requirements.

For those who shoot frequently, handloading can be economically worthwhile.

Norma cases are renowned world-wide for very high quality and narrow dimensional tolerances.

Norma smokeless powders maintain very uniform quality and burning rate between batches, a major advantage for handloaders. The powders offer loading flexibility and cover a wide range of applications.

Norma´s range of bullets offers everything the handloader requires. The moly-coated Diamond Line bullets for match competition provide extremely high accuracy and excellent ballistic qualities.

Bullets 100 bullets/box

Caliber	Ref. no.	Weight gr	Bullet type
5,6 MM	65604	71	Soft point semi p.
5,7 MM	65701	50	Soft point semi p.
	65702	50	Full jacket semi p.
	65704	53	Soft point Spire p.
	65705	62	Soft point
6 MM	66002	100	Full jacket semi p.
	66003	100	Soft point semi p.
6,5 MM	66520	100	Hollow point
	66516	139	Full jacket pointed
	66517	139	Hollow point
	66531	139	Soft point semi p.
	66533	139	Soft point Vulkan
	66524	156	Soft point Oryx
	66532	156	Soft point Alaska
	66535	156	Soft point Vulkan
7 MM	67003	150	Full jacket semi p.
	67033	154	Soft point
	67006	170	Soft point Vulkan
	67001	170	Soft point Oryx
.30 cal.	67610	77	Full jacket round nose
	67651	146	Full jacket pointed
	67624	150	Soft point semi p.
	67630	150	Soft point flatnos
	67625	180	Soft point semi p.
	67638	180	Soft point Oryx
	67648	180	Soft point Alaska
	67653	180	Soft point Vulkan
	67639	200	Soft point Oryx
	67654	200	Soft point Vulkan
8 MM S	68003	196	Soft point Alaska
	68020	196	Soft point Vulkan
	68001	196	Soft point Oryx

Caliber	Ref. no.	Weight gr	Bullet type
9 MM	69027	123	Full jacket TC
.38 cal.	69106	158	Full jacket semi WC
9,3 MM	69305	231	Soft point Vulkan
	69306	231	Full jacket semi p.
	69316	286	Soft point Alaska*
.44 cal.	61103	240	"Power Cavity"

* 50 bullets/boxes

Powders

Powder type	Ref. no.	Canister Gram	For USA Ref. no.	Canister pound
Norma 200	93200-5	500	93200-8	1
Norma 201	93201-5	500	93201-8	1
Norma 202	93202-5	500	93202-8	1
Norma 203-B*	93203-5	500	93203-8	1
Norma 204	93204-5	500	93204-8	1
Norma MRP	93215-5	500	93215-8	1
Norma MRP-2*	93216-5	500	93216-8	1
Norma R-1	91101-5	250	91101-8	1
Norma R-123	91123-5	250	91123-8	1

*Introduced during 1998.

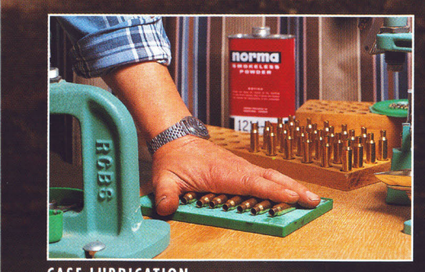
Cases

Caliber	Ref. no.	Pcs/box
.222 Rem.	25711	20
.22-250	25731	20
.243 Win.	26001	20
6,5x55	26551	20
.270 Win.	26901	20

Caliber	Ref. no.	Pcs/box
7x57 R	27004	20
7x64	27012	20
7 MM Rem. Mag.	27021	20
.308 Win.	27623	20
.30-30 Win.	27630	20
.308 Norma Mag.	27637	20
.30-06	27640	20
.300 Win. Mag.	27666	20
.303 British	27711	20
8x57 JS	28001	20
.338 Win. Mag.	28504	20
.358 Norma Mag.	29001	20
9 MM Luger	29021	50
.357 Magnum	29101	50
.38 Special	29110	50
9,3x57	29301	20
9,3x62	29311	20
9,3x74 R	29321	20
.375 H&H Mag.	29501	20
.44 Magnum	21101	20

.404 Jeffrey*	11043	bulk
.416 Rigby	21060	bulk
.458 Win.	21155	bulk
.470 Nitro Express	21163	bulk
.45 Cylindrical*	11123	bulk
.338 Lapua Magnum*	28507	bulk

*Introduced during 1998.

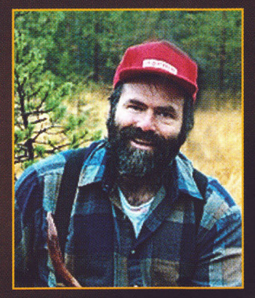


CASE LUBRICATION

CASE CALIBRATION

PRIMER INSERTION

Why an expert prefers Norma components



M.L McPherson, Colorado
EDITOR, WORLD & METALLIC CARTRIDGE RELOADING

"Thirty years ago when I began handloading, I like most handloaders, took up the hobby because it allowed me to do more shooting. Soon, however, I found it was also an interesting diversion for an individualist. I also learned that it allowed me to build cartridges with capabilities and performance no factory ammunition could match.

In subsequent years I have worn out several reloading presses. Yet, I have never lost my love of this hobby, both for relaxation and the sense of accomplishment it provides. Further, I still custom tailor my ammunition – producing several load combinations that are not commercially available. And, of course, economy still enters into the equation. Nevertheless, despite those legitimate points, I have a more compelling reason to maintain this hobby: handloading is the only way I can get ammunition of the best possible quality that is specifically fitted to my gun and my application.

Owing to this critical consideration, I find myself looking more and more at the quality and utility of the components used in my handloads. With the time, expense and effort I spend in developing superior ammunition, saving a pittance on components makes no sense. That is why I prefer Norma cases and powders – Norma puts the extra effort into quality control, effort that makes the difference between also-ran shells and world-class ammunition."

POWDER FILLING

BULLET INSERTION

YOUR COMPLETE CARTRIDGES

Norma gunpowder suitable for most calibres

Norma gunpowder maintains an exceptional even and high quality. The different gunpowder types give a very wide applicatioin area and cover loading requirements of most calibres. In addition, we will be announcing two, long sought-after, new products:

Norma 203-B, perhaps our most versatile gunpowder and an updated version of the original Norma 203.

Norma MRP-2, a gunpowder produced especially for the .30-378 Weatherby. Like no other gunpowder, this will be welcome news for those who enjoy working with extremely high velocities.

Norma 200

Our fastest rifle gunpowder, suited to smaller cartridges such as the .22 Hornet and .222 Rem. It is also suitable for loading light bullets with lower velocities such as the .308 Win.

Norma 201

Highly suited to calibres with small case volumes in relation to bullet diameters, e.g. 9.3x57 and .45-70. And for medium sized cases with light bullets e.g. .30-06.

Norma 202

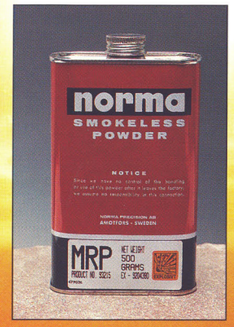
Specially developed to provide the highest performance in the 7.62 Nato. Highly suitable gunpowder for intermediate calibres of type 8x57 JS, 9.3x62 and 9.3x74 R.

Norma 203-B

Reintroduced with the original 203 specifications updated. A widely used gunpowder in .22-250 to .358 Norma Magnum applications. Excellent gunpowder for 6 mm Norma BR and .308 Win. loaded with heavier bullets.

Norma 204

A slow burning gunpowder providing good performance and excellent accuracy in calibres such as 6.5x55 and .30-06.



Norma MRP

A very flexible "magnum gunpowder". Suitable for a number of calibres with relatively large case volumes. Long renowned for providing top performance in magnum calibres.

Norma MRP-2

Specially developed for the .30-378 Weatherby. Also a good choice for other "overbore" calibres like 7 mm STW, 6.5-284 and 6.5-06. Especially suitable for heavier bullets.

Norma R-1

Our fastest pistol gunpowder for loading Wadcutter bullets and other lead bullets in .32 S&W Long, .38 Special, etc.

Norma R-123

A slow pistol gunpowder intended for .357 Magnum, .44 Magnum and other pistol and revolver cartridges with high pressures.

Zero your gun at the proper range

The best distance to zero an all-round hunting rifle is 200 yards. A modern rifle zeroed at 200 yards will only shoot one or two inches high at 100 yards, and this is of no importance to the hunter. Once you have zeroed your rifle in this manner, you can use the same point of aim for shots at any range from point-blank to something slightly beyond 200 yards.

If preferred, you can zero your rifle at 100 yards. However, you will have to aim several inches above the intended point of impact if your target is beyond about 150 yards. Proper sighting correction values are tabulated in the ballistics section at the end of this catalogue.

Do not forget to sight-in your rifle using the ammunition you intend to hunt with.

The Norma concept for match competition marksmen – when the target is precision

Norma offers a very broad and advanced shooting concept and has established a name invariably mentioned with great respect in connection with major international match shooting.

It is many years since Norma began close collaboration with the worlds match shooting elite. This collaboration has definitely paid out dividends. Several medals, won at World and European championships have lent extra appeal to Norma factory loaded cartridges.

Some years ago, Norma introduced a revolutionary product for match shooting; Diamond Line. A cartridge with a bullet coated with molybdenum disulphide and a protective layer of wax. These cartridges provide better precision, less deposit in barrels, easier cleaning and less barrel wear.

Within a short space of time, Diamond Line has become a very popular cartridge among Europe's match shooting elite. Benchrest shooters in the USA have also discovered the excellent properties offered by this type of coating.

6 mm Norma BR – a winner

Parallel with development of Diamond Line, Norma have developed a new cartridge, 6 mm Norma BR. This cartridge has won renown, especially among sporting-marksmen, the world over. It's low recoil and minimum wind drift provide the competitor with many advantages, and frequently results in extremely good accuracy results.

Rifle cartridges

Caliber / Product name	Ref. no.	Ball. co-efficient	Bullet type	Bullet weight gram	Bullet weight grains	Velocity feet/sec. Muzzle	Height of trajectory above line of sight if sighted in at ⊕ yards. For sights 1.6 inch above bore. 100 yds	200 yds	300 yds	400 yds	500 yds	600 yds	Wind drift in inches for a 10 m.p.h. cross wind. 300 yds	600 yds
6,5x55														
Banskytte/Rekrutt	16523	.345	Hollow Point	6.5	100	2625	5.6	6.7	⊕	-16.3	-44.9	-89.3	11.0	50.1
Diamond Line Bana	16500	.548	Hollow Point	8.4	130	2625	4.9	5.7	⊕	-13.2	-34.9	-66.5	6.2	27.3
Diamond Line Fält	16530	.548	Hollow Point	8.4	130	2953	3.6	4.4	⊕	-10.1	-26.8	-51.0	5.2	22.9
Nya Silvertorped	16512	.505	Hollow Point	9.0	139	2625	5.0	5.8	⊕	-13.6	-36.0	-69.1	6.8	30.2
Elit (Banelit)	16510	.505	Hollow Point	9.0	139	2625	5.0	5.8	⊕	-13.6	-36.0	-69.1	6.8	30.2
Fältelit	16520	.505	Hollow Point	9.0	139	2789	4.3	5.1	⊕	-11.8	-31.4	-60.2	6.2	27.5
6 mm Norma BR														
Diamond Line	16015	.528	Hollow Point	6.9	107	2822	4.1	4.9	⊕	-11.4	-30.3	-57.9	5.9	26.1
Diamond Line	16016	.560	Hollow Point	6.8	105	2789	4.2	5.0	⊕	11.4	30.2	57.5	5.5	24.3
.308 Win.														
Diamond Line	17615	.470	Hollow Point	10.9	168	2549	5.5	6.4	⊕	-14.9	-39.8	-76.7	7.6	34.5
Diamond Line	17616	.560	Hollow Point	12.4	190	2559	5.2	6.0	⊕	-13.8	-36.6	-69.7	6.3	27.7
7,5x55 Swiss														
Diamond Line	17516	.560	Hollow Point	12.4	190	2592	5.1	5.9	⊕	-13.5	-35.6	-67.7	6.1	28.8
Diamond Line	17517	.590	Hollow Point	13.0	200	2493	5.5	6.3	⊕	-14.4	-38.1	-72.2	6.1	27.0

.22 Long Rifle

Product name	Ref. no.	Bullet type	Bullet weight gram	Bullet weight grains	Velocity feet/sec
Norma 1	15613	Lead, round nose	2.6	40	1066
Norma 2	15614	Lead, round nose	2.6	40	1066
Norma 3	15615	Lead, round nose	2.6	40	1066

Rifle bullets

6 mm	66012	Hollow point DL	6.9	107
6,5 mm	66520	Hollow point	6.5	100
6,5 mm	66508	Hollow point DL	8.4	130
6,5 mm	66517	Hollow point (Elit)	9.0	139
.30	67635	Hollow point DL	10.9	168
.30	67636	Hollow point DL	12.4	190

Gunpowders

Powder 1214	93214
Powder 1225	93225
Powder 1230	93230

Moly-coated bullets for competition?

by Randolph Constantine

Moly-coated bullets first came to my attention in 1995. There were articles in Precision Shooting magazine describing the wonderful results Norma Precision AB was getting with moly-coated bullets in the 6.5x55 cartridge. What I read there piqued my interest. It seemed that moly-coated bullets gave you almost everything a competitive shooter could want for very little extra cost – better accuracy, better ballistic performance, and longer barrel life. Could it be true? I decided to give them a try.

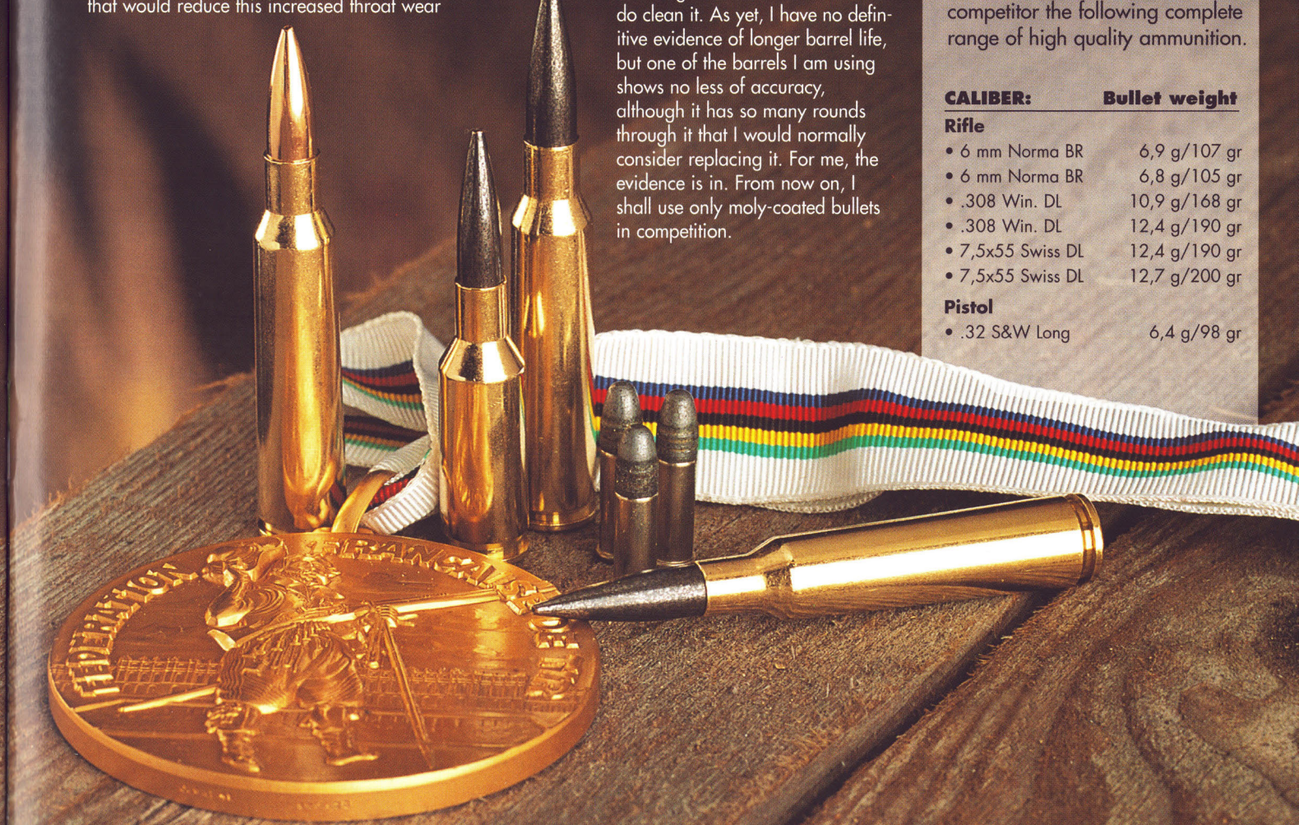
My hobby is competing in Highpower Rifle matches here in the United States in which I use a rifle chambered for the .308 Winchester (7.62x51) cartridge. What makes US Highpower unique are the two Rapidfire stages in which the shooters have to move from the standing position into the shooting position, shoot either 2 or 5 shots, reload the rifle and then shoot the remainder of 10 shots, all in a time period of 60 seconds at 200 yards or 70 seconds at 300 yards.

The rifle barrel gets quite hot in these rapidfire stages and thus suffers far more throat crosion and bore wear than it would if the same number of shots were fired at a slower rate. Anything that would reduce this increased throat wear during the rapidfire stages would be very welcome. There was some evidence that moly-coated bullets could do just that.

I quickly developed loads with moly-coated bullets that gave very good accuracy. Groups were on the order of 0.5 minutes of angle or less for five shots through a barrel that had already had more than 4500 shots through it. As an additional benefit, I discovered that the accuracy did not deteriorate after many shots, and as the bore became conditioned by the passage of the moly-coated bullets through it, it was no longer necessary to clean the barrel as often.

Using this rifle with moly-coated bullets I took Second Expert at the National Championships at Camp Perry, Ohio in August 1996. The Championship was won that year by Dr. Thomas Whitaker, who was als using moly-coated bullets.

After two years of shooting moly-coated bullets, I am now convinced that I do get better accuracy and possibly better ballistic performance at long distances. I definitely have to clean the barrel less often, and it takes less time to get the barrel clean when I do clean it. As yet, I have no definitive evidence of longer barrel life, but one of the barrels I am using shows no less of accuracy, although it has so many rounds through it that I would normally consider replacing it. For me, the evidence is in. From now on, I shall use only moly-coated bullets in competition.



The Norma CISM-program

Many National Military Teams have discovered the advantages of Diamond Line and have used this product with considerable success in international competition.

Norma offers the military match competitor the following complete range of high quality ammunition.

CALIBER:	Bullet weight
Rifle	
• 6 mm Norma BR	6,9 g/107 gr
• 6 mm Norma BR	6,8 g/105 gr
• .308 Win. DL	10,9 g/168 gr
• .308 Win. DL	12,4 g/190 gr
• 7,5x55 Swiss DL	12,4 g/190 gr
• 7,5x55 Swiss DL	12,7 g/200 gr
Pistol	
• .32 S&W Long	6,4 g/98 gr

BALLISTIC DATA

Caliber	Bullet type Bullet weight gram/grains Product number	Ball. co-efficient	Velocity feet/sec Muzzle	$V_{100\ yds}$	$V_{200\ yds}$	$V_{300\ yds}$	Energy foot pounds Muzzle	$E_{100\ yds}$	$E_{200\ yds}$	$E_{300\ yds}$	Zero range, yards	Height of trajectory above line of sight if sighted in a ⊕ yards. For sights 1,6 inch above bore. 50 yds	100 yds	150 yds	200 yds	300 yds	Wind drift in inches for a 10 m.p.h. cross wind. 100 yds	200 yds	300 yds
.220 SWIFT	**Soft point** 3.2 gram / 50 grains Product no. 15701	.185	4019	3380	2826	2335	1794	1268	887	605	100 150 200	-0.5 -0.4 -0.1	⊕ 0.2 0.7	-0.3 ⊕ 0.8	-1.5 -1.1 ⊕	-7.3 -6.8 -5.1	1.2	5.1	12.6
.222 REM.	**Soft point** 3.2 gram / 50 grains Product no. 15711	.185	3199	2667	2193	1771	1136	790	534	348	100 150 200	-0.3 0.0 0.6	⊕ 0.6 1.7	-0.9 ⊕ 1.6	-3.4 -2.1 ⊕	-14.1 -12.2 -9.1	1.6	6.9	17.2
	Full jacket 3.2 gram / 50 grains Product no. 15713	.198	2789	2326	1910	1547	864	601	405	266	100 150 200	-0.1 0.4 1.1	⊕ 1.0 2.5	-1.5 ⊕ 2.2	-4.9 -2.9 ⊕	-19.6 -16.6 -12.2	1.8	7.9	19.8
	Soft Point 4.0 gram / 62 grains Product no. 15716	.214	2887	2457	2067	1716	1148	831	588	405	100 150 200	-0.2 0.2 0.9	⊕ 0.8 2.1	-1.3 ⊕ 1.9	-4.2 -2.6 ⊕	-16.7 -14.2 -10.4	1.5	6.5	16.5
.22-250	**Soft point** 3.4 gram / 53 grains Product no. 15733	.237	3707	3234	2809	1716	1618	1231	928	690	100 150 200	-0.4 -0.3 0.0	⊕ 0.3 0.9	-0.4 ⊕ 0.9	-1.7 -1.2 ⊕	-7.9 -7.1 -5.3	1.0	4.3	10.3
5,6x52 R	**Soft point** 4.6 gram / 71 grains Product no. 15604	.268	2789	2446	2128	1835	1227	944	714	531	100 150 200	-0.2 0.3 0.9	⊕ 0.9 2.1	-1.3 ⊕ 1.9	-4.3 -2.5 ⊕	-16.2 -13.7 -9.9	1.3	5.5	13.2
.243 WIN.	**Full jacket** 6.5 gram / 100 grains Product no. 16002	.357	3018	2747	2493	2252	2023	1677	1380	1126	100 150 200	-0.3 0.0 0.5	⊕ 0.6 1.5	-0.9 ⊕ 1.4	-3.0 -1.9 ⊕	-11.7 -9.9 -7.1	0.8	3.5	8.3
	Soft point 6.5 gram / 100 grains Product no. 16003	.357	3018	2748	2493	2252	2023	1677	1380	1126	100 150 200	-0.3 0.0 0.5	⊕ 0.6 1.5	-0.9 ⊕ 1.4	-3.0 -1.9 ⊕	-11.7 -9.9 -7.1	0.8	3.5	8.3
6,5 JAP	**Alaska** 10.1 gram / 156 grains Product no. 16532	.326	2067	1832	1615	1423	1480	1162	904	701	100 150 200	0.4 1.3 2.6	⊕ 2.0 4.4	-2.9 ⊕ 3.7	-8.8 -4.9 ⊕	-31.0 -25.2 -17.8	1.5	6.8	16.0
6,5 CARCANO	**Alaska** 10.1 gram / 156 grains Product no. 16535	.326	2428	2169	1926	1702	2043	1630	1286	1004	100 150 200	0.0 0.7 1.5	⊕ 1.3 2.9	-1.9 ⊕ 2.5	-5.8 -3.3 ⊕	-21.1 -17.3 -12.3	1.3	5.3	12.8
6,5x55	**Vulkan** 9.0 gram / 139 grains Product no. 16558	.325	2854	2569	2302	2051	2515	2038	1636	1298	100 150 200	-0.2 0.2 0.7	⊕ 0.7 1.8	-1.1 ⊕ 1.7	-3.7 -2.2 ⊕	-14.0 -11.7 -8.4	1.0	4.2	10.0
	Nosler 9.1 gram / 140 grains Product no. 16559	.467	2789	2592	2403	2223	2419	2089	1796	1536	100 150 200	-0.2 0.2 0.7	⊕ 0.7 1.8	-1.1 ⊕ 1.6	-3.6 -2.1 ⊕	-13.2 -11.0 -7.8	0.7	2.9	6.9
	TXP Line, Swift 10.1 gram / 156 grains Product no. 16541	.345	2526	2276	2040	1818	2196	1782	1432	1138	100 150 200	0.0 0.6 1.3	⊕ 1.1 2.6	-1.7 ⊕ 2.2	-5.3 -3.0 ⊕	-18.8 -15.4 -10.9	1.0	4.8	11.2
	Alaska 10.1 gram / 156 grains Product no. 16552	.276	2559	2245	1953	1687	2269	1746	1322	986	100 150 200	0.0 0.5 1.3	⊕ 1.1 2.7	-1.7 ⊕ 2.3	-5.4 -3.1 ⊕	-19.9 -16.5 -11.9	1.4	5.9	14.5
	Vulkan 10.1 gram / 156 grains Product no. 16556	.354	2644	2395	2159	1937	2422	1987	1616	1301	100 150 200	-0.1 0.4 1.0	⊕ 0.9 2.2	-1.4 ⊕ 2.0	-4.5 -2.6 ⊕	-16.5 -13.6 -9.7	0.9	4.3	10.0
	Oryx 10.1 gram / 156 grains Product no. 16562	.348	2559	2308	2070	1848	2269	1845	1485	1183	100 150 200	-0.1 0.5 1.2	⊕ 1.1 2.5	-1.6 ⊕ 2.2	-5.0 -2.9 ⊕	-18.1 -14.9 -10.6	1.1	4.6	11.0
.270 WIN.	**Soft point** 8.4 gram / 130 grains Product no. 16902	.359	3140	2862	2601	2354	2847	2365	1953	1600	100 150 200	-0.3 0.1 0.4	⊕ 0.5 1.3	-0.7 ⊕ 1.3	-2.7 -1.7 ⊕	-10.5 -9.0 -6.5	0.8	3.4	7.9
	Soft point 9.7 gram / 150 grains Product no. 16903	.373	2799	2555	2323	2104	2610	2175	1798	1475	100 150 200	-0.2 0.2 0.7	⊕ 0.8 1.9	-1.1 ⊕ 1.7	-3.7 -2.2 ⊕	-13.9 -11.7 -8.3	0.9	3.7	8.9
7x57	**Soft point** 9.7 gram / 150 grains Product no. 17002	.421	2690	2479	2278	2087	2411	2048	1729	1450	100 150 200	-0.2 0.3 0.9	⊕ 0.8 2.0	-1.3 ⊕ 1.8	-4.1 -2.4 ⊕	-14.9 -12.3 -8.8	0.8	3.4	8.0
7x57 R	**Full jacket** 9.7 gram / 150 grains Product no. 17006	.441	2690	2489	2296	2112	2411	2063	1756	1486	100 150 200	-0.2 0.3 0.9	⊕ 0.8 2.0	-1.3 ⊕ 1.8	-4.0 -2.4 ⊕	-14.7 -12.2 -8.6	0.8	3.2	7.6
	Soft point 10.0 gram / 154 grains Product no. 17005	.425	2625	2417	2219	2030	2357	1999	1684	1410	100 150 200	-0.1 0.3 1.0	⊕ 0.9 2.2	-1.4 ⊕ 1.9	-4.4 -2.5 ⊕	-15.8 -13.1 -9.3	0.8	3.5	8.3
7 MM REM. MAG.	**Vulkan** 11.0 gram / 170 grains Product no. 17024	.353	3018	2747	2493	2252	3439	2850	2346	1914	100 150 200	-0.3 0.0 0.5	⊕ 0.6 1.5	-0.9 ⊕ 1.4	-3.0 -1.9 ⊕	-11.7 -9.9 -2.8	0.9	3.6	8.4
	Oryx 11.0 gram / 170 grains Product no. 17023	.321	2887	2601	2333	2080	3147	2555	2055	1634	100 150 200	-0.2 0.2 0.7	⊕ 0.7 1.8	-1.1 ⊕ 1.6	-3.7 -2.2 ⊕	-13.7 -11.5 -8.2	1.0	4.0	9.8
	Plastic point 11.0 gram / 170 grains Product no. 17027	.378	3018	2762	2519	2290	3439	2880	2394	1980	100 150 200	-0.3 0.0 0.5	⊕ 0.6 1.5	-0.9 ⊕ 1.4	-3.0 -1.8 ⊕	-11.4 -9.7 -7.0	0.8	3.3	7.8
7x64	**Soft point** 10.0 gram / 154 grains Product no. 17013	.422	2821	2605	2399	2203	2722	2321	1969	1660	100 150 200	-0.2 0.2 0.7	⊕ 0.7 1.8	-1.1 ⊕ 1.6	-3.5 -2.1 ⊕	-13.1 -11.0 -7.8	0.8	3.2	7.6
	Vulkan 11.0 gram / 170 grains Product no. 17018	.353	2756	2501	2259	2031	2868	2361	1927	1558	100 150 200	-0.2 0.2 0.8	⊕ 0.8 2.0	-1.2 ⊕ 1.8	-4.0 -2.4 ⊕	-14.8 -12.4 -8.8	0.9	4.0	9.4
	Oryx 11.0 gram / 170 grains Product no. 17020	.324	2756	2481	2222	1979	2868	2324	1864	1478	100 150 200	-0.1 0.3 0.9	⊕ 0.9 2.1	-1.3 ⊕ 1.8	-4.2 -2.4 ⊕	-15.4 -12.8 -9.2	1.0	4.3	10.0
	Plastic point 11.0 gram / 170 grains Product no. 17019	.378	2756	2519	2294	2081	2868	2396	1987	1635	100 150 200	-0.2 0.2 0.8	⊕ 0.8 2.0	-1.2 ⊕ 1.7	-3.9 -2.3 ⊕	-14.4 -12.0 -8.6	0.9	3.7	8.7

Pistol and revolver cartridges

Collaboration with leading pistol and revolver match shooters around the world has brought resounding international success.

Our products undergo continuous development. The latest example of this ongoing improvement is our .32 S&W Long target load. Recent alterations in bullet design place this loading yet another step ahead of our competitors.

Safety cartridges for the police

Norma Safety cartridges are used by the police of several countries. Sufficient proof that our products meet the very highest demands for precision, functionality and safety.

Caliber	Bullet type Bullet weight/Ref. no.	Velocity feet/sec. in yards Muzzle	V_{25}	V_{50}	V_{100}	Energy foot pounds in yards Muzzle	E_{25}	E_{50}	E_{100}	Zero range, yards	Height of trajectory above line of sight if sighted in at ⊕ yards. For sights 0.8 inch above bore. 25 yds	50 yds	80 yds	100 yds	Wind drift in inches for a 10 m.p.h. cross wind. 25 yds	50 yds	80 yds	100 yds
.32 ACP	Full jacket, round nose 5.0 g/77 gr. No. 17614*	899	884	871	845	138	134	130	122	25 50	⊕ 1.0	-2.0 ⊕	-8.2 -5.0	-14.7 -10.7	0.1	0.4	1.1	1.9
.32 S&W LONG	Lead, wadcutter 6.4 g/98 gr. No. 17810	787	759	732	683	136	126	118	102	25 50	⊕ 1.4	-3.0 ⊕	-12.0 -7.1	-21.4 -15.3	0.4	1.3	3.3	5.0
9 MM LUGER	Hollow point 7.4 g/115 gr. No. 19021*	1165	1099	1046	966	344	306	277	236	25 50	⊕ 0.5	-1.0 ⊕	-4.9 -3.2	-9.1 -7.1	0.4	1.3	3.3	5.0
	Soft point flat nose 7.5 g/116 gr. No.19026*	1165	1094	1038	954	349	308	278	235	25 50	⊕ 0.5	-1.0 ⊕	-4.9 -3.3	-9.3 -7.2	0.9	3.5	9.3	15.0
	Security cartridge 8.0 g/123 gr. No.19027*	1165	1074	1007	910	372	315	278	227	25 50	⊕ 0.5	-1.1 ⊕	-5.2 -3.5	-9.9 -7.7	0.5	1.9	4.5	6.9
9 MM TC LUGER	8.0 g/123 gr. No. 19035	1099	1032	980	899	331	292	263	221	25 50	⊕ 0.6	-1.2 ⊕	-5.8 -3.8	-10.7 -8.2	0.4	1.5	3.7	5.7
9 MM TC AUTO	8.0 g/123 gr. No. 19036	1280	1170	1086	972	449	375	323	259	25 50	⊕ 0.4	-0.8 ⊕	-4.2 -2.9	-8.1 -6.5	0.5	1.9	4.6	7.0
.357 MAGNUM	Security cartridge 8.0 g/123 gr. No. 19104*	1312	1248	1191	1098	472	427	389	330	25 50	⊕ 0.3	-0.6 ⊕	-3.4 -2.4	-6.5 -5.3	0.2	1.0	2.6	4.0
	Hollow point 10.2 g/158 gr. No. 19101*	1214	1158	1110	1034	515	468	431	374	25 50	⊕ 0.4	-0.8 ⊕	-4.2 -2.8	-7.9 -6.2	0.3	1.0	2.6	4.0
	Full jacket semi WC 10.2 g/158 gr. No. 19106	1214	1155	1105	1026	515	466	427	368	25 50	⊕ 0.4	-0.8 ⊕	-4.2 -2.9	-8.0 -6.3	0.3	1.1	2.7	4.2
	Soft point flatnos 10.2 g/158 gr. No. 19107	1214	1158	1110	1034	515	469	431	374	25 50	⊕ 0.4	-0.8 ⊕	-4.2 -2.8	-7.9 -6.2	0.3	1.0	2.6	4.0
.38 SPECIAL	Security cartridge 8.0 g/123 gr. No. 19130*	886	868	852	821	215	207	199	185	25 50	⊕ 1.1	-2.1 ⊕	-8.6 -5.2	-15.4 -11.2	0.1	0.6	1.6	2.4
	Bly, wadcutter 9.6 g/148 gr. No. 19110	705	691	671	649	164	157	150	138	25 50	⊕ 1.8	-3.7 ⊕	-14.6 -8.6	-25.8 -18.3	0.1	0.6	2.0	3.2
	Bly, ogival 10.2 g/158 gr. No. 19112*	755	741	729	705	199	192	186	174	25 50	⊕ 1.5	-3.2 ⊕	-12.4 -7.3	-21.9 -15.5	0.2	0.7	1.7	2.5
	Full jacket semi WC 10.2 g/158 gr. No. 19114	804	790	777	752	226	218	211	198	25 50	⊕ 1.3	-2.7 ⊕	-10.7 -6.4	-19.0 -13.7	0.1	0.5	1.4	2.3
	Soft point flat nose 10.2 g/158 gr. No. 19124*	804	789	774	747	226	217	210	195	25 50	⊕ 1.3	-2.7 ⊕	-10.8 -6.4	-19.2 -13.8	0.1	0.6	1.6	2.5
10 MM AUTO	Hollow point 11.0 g/170 gr. No. 11002*	1299	1215	1145	1040	636	557	494	407	25 50	⊕ 0.3	-0.7 ⊕	-3.7 -2.6	-7.2 -5.8	0.4	1.4	3.5	5.3
	Full jacket flat nose 13.0 g/200 gr. No. 11001*	1115	1074	1038	979	554	513	480	427	25 50	⊕ 0.5	-1.1 ⊕	-5.1 -3.3	-9.4 -7.2	0.2	0.9	2.2	3.4
.44 MAGNUM	"Power Cavity" 15.6 g/240 gr. No. 11103	1280	1208	1147	1052	875	780	703	591	25 50	⊕ 0.3	-0.7 ⊕	-3.7 -2.6	-7.2 -5.8	0.3	1.2	3.0	4.6

*Available until stock exhausted.

50 cartridges/boxes. 10 mm Auto and .44 Mag. 20 cartridges/boxes.

BALLISTIC DATA

Caliber	Bullet type Bullet weight gram/grains Product number	Ball. co-efficient	Velocity feet/sec Muzzle	$V_{100\ yds}$	$V_{200\ yds}$	$V_{300\ yds}$	Energy foot pounds Muzzle	$E_{100\ yds}$	$E_{200\ yds}$	$E_{300\ yds}$	Zero range, yards	Height of trajectory above line of sight if sighted in a ⊕ yards. For sights 1,6 inch above bore. 50 yds	100 yds	150 yds	200 yds	300 yds	Wind drift in inches for a 10 m.p.h. cross wind. 100 yds	200 yds	300 yds
7x65 R	**Plastic point** 11.0 gram / 170 grains Product no. 17028	.373	2625	2390	2167	1956	2602	2157	1773	1445	100 150 200	-0.1 0.4 1.0	⊕ 0.9 2.3	-1.4 ⊕ 2.0	-4.5 -2.6 ⊕	-16.4 -13.6 -9.7	1.0	4.1	9.6
	Vulkan 11.0 gram / 170 grains Product no. 17029	.335	2657	2392	2143	1909	2666	2161	1734	1377	100 150 200	-0.1 0.4 1.1	⊕ 1.0 2.3	-1.5 ⊕ 2.0	-4.6 -2.7 ⊕	-16.8 -13.9 -9.9	1.1	4.5	10.8
	Oryx 11.0 gram / 170 grains Product no. 17022	.312	2657	2378	2115	1871	2666	2135	1690	1321	100 150 200	-0.1 0.4 1.1	⊕ 1.0 2.3	-1.5 ⊕ 2.0	-4.7 -2.7 ⊕	-17.2 -14.2 -10.1	1.0	4.5	10.0
.280 REM.	**Vulkan** 11.0 gram / 170 grains Product no. 17051	.357	2592	2346	2113	1894	2537	2078	1686	1354	100 150 200	0.0 0.5 1.2	⊕ 1.0 2.4	-1.5 ⊕ 2.1	-4.8 -2.8 ⊕	-17.5 -14.4 -10.2	1.0	4.4	10.3
	Oryx 11.0 gram / 170 grains Product no. 17049	.321	2690	2416	2159	1918	2732	2204	1760	1389	100 150 200	-0.1 0.4 1.0	⊕ 1.0 2.2	-1.4 ⊕ 2.0	-4.5 -2.6 ⊕	-16.5 -13.6 -9.7	1.0	4.5	10.5
	Plastic point 11.0 gram / 170 grains Product no. 17060	.373	2707	2468	2241	2026	2767	2299	1896	1550	100 150 200	-0.1 0.3 1.0	⊕ 0.9 2.1	-1.3 ⊕ 1.8	-4.2 -2.5 ⊕	-15.4 -12.7 -9.1	0.9	3.9	9.1
7,5x55 SWISS	**Soft point** 11.7 gram / 180 grains Product no. 17511	.404	2651	2432	2223	2025	2810	2364	1976	1639	100 150 200	-0.1 0.4 1.0	⊕ 0.9 2.2	-1.4 ⊕ 1.9	-4.4 -2.5 ⊕	-15.8 -13.1 -9.3	0.8	3.7	8.6
7,62 RUSSIAN	**Soft point** 9.7 g/150 gr Product no. 17637	.287	2953	2622	2314	2028	2905	2291	1784	1370	100 150 200	-0.2 0.2 0.7	⊕ 0.7 1.8	-1.1 ⊕ 1.6	-3.6 -2.2 ⊕	-13.7 -11.5 -8.3	1.1	4.6	11.2
	Soft point 11.7 gram / 180 grains Product no. 17634	.406	2575	2360	2154	1960	2651	2226	1856	1536	100 150 200	0.0 0.5 1.2	⊕ 1.0 2.4	-1.5 ⊕ 2.0	-4.7 -2.7 ⊕	-17.0 -14.0 -9.9	0.8	3.9	9.0
.300 WIN. MAG.	**Soft point** 11.7 gram / 180 grains Product no. 17680	.406	3018	2780	2555	2341	3641	3091	2610	2190	100 150 200	-0.2 0.1 0.5	⊕ 0.6 1.5	-0.9 ⊕ 1.4	-3.0 -1.8 ⊕	-11.4 -9.6 -7.0	0.8	3.4	8.1
	Plastic point 11.7 gram / 180 grains Product no. 17687	.366	3018	2755	2506	2271	3641	3034	2512	2062	100 150 200	-0.2 0.1 0.6	⊕ 0.6 1.6	-0.9 ⊕ 1.4	-3.1 -1.9 ⊕	-11.7 -9.9 -7.1	0.8	3.4	8.0
	TXP Line, Swift 11.7 gram / 180 grains Product no. 17519	.400	2920	2688	2467	2256	3409	2888	2432	2035	100 150 200	-0.2 0.1 0.6	⊕ 0.7 1.7	-1.0 ⊕ 1.5	-3.3 -2.0 ⊕	-12.4 -10.4 -7.4	1.0	3.0	7.5
	Vulkan 13.0 gram / 200 grains Product no. 17644	.336	2887	2609	2347	2100	3702	3023	2447	1960	100 150 200	-0.2 0.2 0.7	⊕ 0.7 1.8	-1.1 ⊕ 1.6	-3.6 -2.2 ⊕	-13.6 -11.4 -8.2	0.9	3.7	8.9
	Oryx 13.0 gram / 200 grains Product no. 17676	.323	3018	2755	2506	2271	4046	3371	2791	2292	100 150 200	-0.3 0.0 0.5	⊕ 0.6 1.5	-0.9 ⊕ 1.4	-3.0 -1.8 ⊕	-11.5 -9.8 -7.0	0.8	3.4	8.0
.30-06	**Soft point** 9.7 gram / 150 grains Product no. 17643	.285	2972	2640	2331	2043	2943	2321	1810	1390	100 150 200	-0.2 0.2 0.7	⊕ 0.7 1.8	-1.1 ⊕ 1.6	-3.5 -2.1 ⊕	-13.5 -11.4 -8.2	1.1	4.6	11.1
	Alaska 11.7 gram / 180 grains Product no. 17648	.257	2700	2351	2028	1734	2914	2209	1645	1202	100 150 200	-0.1 0.4 1.1	⊕ 1.0 2.4	-1.5 ⊕ 2.1	-4.8 -2.8 ⊕	-18.2 -15.2 -11.0	1.4	6.0	14.6
	Nosler 11.7 gram / 180 grains Product no. 17649	.438	2700	2494	2297	2108	2914	2486	2108	1777	100 150 200	-0.1 0.3 0.9	⊕ 0.9 2.1	-1.3 ⊕ 1.8	-4.1 -2.4 ⊕	-14.8 -12.2 -8.7	0.8	3.3	7.8
	Plastic point 11.7 gram / 180 grains Produkt nt 17653	.366	2700	2455	2222	2003	2914	2409	1974	1603	100 150 200	-0.1 0.4 1.0	⊕ 0.9 2.1	-1.4 ⊕ 1.9	-4.3 -2.5 ⊕	-15.6 -12.9 -9.2	0.9	4.0	9.4
	Vulkan 11.7 gram / 180 grains Product no. 17659	.315	2700	2416	2150	1901	2914	2334	1848	1445	100 150 200	-0.1 0.4 1.0	⊕ 0.9 2.2	-1.4 ⊕ 2.0	-4.5 -2.6 ⊕	-16.5 -13.7 -9.8	1.1	4.8	11.2
	Oryx 11.7 gram / 180 grains Product no. 17674	.288	2700	2387	2095	1825	2914	2278	1755	1332	100 150 200	-0.1 0.3 1.0	⊕ 0.9 2.3	-1.4 ⊕ 2.0	-4.5 -2.7 ⊕	-17.1 -14.3 -10.2	1.1	5.3	12.8
	TXP Line, Swift 11.7 gram / 180 grains Product no. 17518	.400	2700	2479	2268	2067	2914	2456	2056	1708	100 150 200	-0.2 0.3 0.9	⊕ 0.8 2.0	-1.3 ⊕ 1.8	-4.1 -2.4 ⊕	-14.9 -12.4 -8.8	0.8	3.2	7.6
	Vulkan 13.0 gram / 200 grains Product no. 17684	.347	2641	2385	2143	1916	3098	2527	2040	1631	100 150 200	-0.1 0.4 1.1	⊕ 1.0 2.3	-1.5 ⊕ 2.0	-4.6 -2.7 ⊕	-16.9 -13.9 -9.9	1.0	4.4	10.5
	Oryx 13.0 gram / 200 grains Product no. 17677	.338	2625	2362	2115	1883	3061	2479	1987	1575	100 150 200	-0.1 0.4 1.1	⊕ 1.0 2.3	-1.5 ⊕ 2.0	-4.7 -2.7 ⊕	-17.1 -14.2 -10.1	1.1	4.6	11.0
.308 WIN.	**Soft point** 9.7 gram / 150 grains Product no. 17624	.289	2861	2537	2235	1954	2727	2144	1664	1272	100 150 200	-0.2 0.3 0.8	⊕ 0.8 2.0	-1.2 ⊕ 1.8	-3.9 -2.3 ⊕	-14.9 -12.5 -9.0	1.2	4.9	11.7
	TXP Line, Swift 10.8 gram / 165 grains Product no. 17612	.367	2700	2459	2231	2015	2672	2216	1824	1488	100 150 200	-0.3 0.3 0.9	⊕ 0.9 2.1	-1.3 ⊕ 1.8	-4.2 -2.4 ⊕	-15.3 -12.8 -9.1	0.8	3.5	8.4
	Plastic point 11.7 gram / 180 grains Product no. 17628	.358	2612	2365	2131	1911	2728	2235	1815	1460	100 150 200	-0.1 0.5 1.1	⊕ 1.0 2.4	-1.5 ⊕ 2.1	-4.7 -2.7 ⊕	-17.2 -14.2 -10.1	1.1	4.4	10.3
	Nosler 11.7 gram / 180 grains Product no. 17635	.442	2612	2414	2225	2044	2728	2330	1979	1670	100 150 200	-0.1 0.4 1.1	⊕ 1.0 2.2	-1.4 ⊕ 1.9	-4.5 -2.6 ⊕	-16.0 -13.1 -9.3	0.8	3.4	8.0
	Alaska 11.7 gram / 180 grains Product no. 17636	.257	2612	2269	1953	1667	2728	2059	1526	1111	100 150 200	0.0 0.5 1.3	⊕ 1.1 2.7	-1.7 ⊕ 2.3	-5.3 -3.1 ⊕	-19.8 -16.5 -11.9	1.4	6.4	15.4
	Vulkan 11.7 gram / 180 grains Product no. 17660	.305	2612	2325	2056	1806	2728	2161	1690	1304	100 150 200	0.0 0.5 1.2	⊕ 1.1 2.5	-1.6 ⊕ 2.2	-5.0 -2.9 ⊕	-18.2 -15.1 -10.8	1.2	5.2	12.4
	Oryx 11.7 gram / 180 grains Product no. 17675	.288	2612	2305	2019	1755	2728	2124	1629	1232	100 150 200	-0.1 0.4 1.2	⊕ 1.0 2.5	-1.6 ⊕ 2.2	-5.0 -2.9 ⊕	-18.6 -15.4 -11.1	1.3	5.6	13.4
	Vulkan 13.0 gram / 200 grains Product no. 17683	.347	2461	2215	1983	1767	2690	2179	1747	1387	100 150 200	0.1 0.7 1.5	⊕ 1.2 2.8	-1.8 ⊕ 2.4	-5.6 -3.2 ⊕	-20.1 -16.5 -11.7	1.2	4.9	11.7

BALLISTIC DATA

Caliber	Bullet type Bullet weight gram/grains Product number	Ball. co-efficient	Velocity feet/sec Muzzle	$V_{100\ yds}$	$V_{200\ yds}$	$V_{300\ yds}$	Energy foot pounds Muzzle	$E_{100\ yds}$	$E_{200\ yds}$	$E_{300\ yds}$	Zero range, yards	Height of trajectory above line of sight if sighted in a ⊕ yards. For sights 1,6 inch above bore. 50 yds	100 yds	150 yds	200 yds	300 yds	Wind drift in inches for a 10 m.p.h. cross wind. 100 yds	200 yds	300 yds
.30-30 WIN.	**Soft point** 9.7 gram / 150 grains Product no. 17630	.257	2329	2008	1716	1459	1807	1344	981	709	100 150 200	0.2 1.0 2.0	⊕ 1.6 3.6	-2.3 ⊕ 3.1	-7.2 -4.1 ⊕	-26.3 -21.7 -15.5	1.8	7.6	18.3
.308 NORMA MAG.	**Vulkan** 13.0 gram / 200 grains Product no. 17650	.337	2903	2624	2361	2114	3744	3058	2476	1985	100 150 200	-0.2 0.2 0.7	⊕ 0.7 1.8	-1.1 ⊕ 1.6	-3.6 -2.1 ⊕	-13.4 -11.2 -8.0	1.0	4.0	9.4
7,65 ARG.	**Soft point** 11.7 gram / 180 grains Product no. 17702	.425	2592	2386	2189	2002	2686	2276	1916	1602	100 150 200	-0.1 0.5 1.1	⊕ 1.0 2.3	-1.5 ⊕ 2.0	-4.6 -2.7 ⊕	-16.5 -13.6 -9.6	0.9	3.6	8.5
.303 BRITISH	**Soft point** 9.7 gram / 150 grains Product no. 17712	.316	2723	2438	2170	1920	2470	1980	1569	1228	100 150 200	-0.1 0.4 1.0	⊕ 0.9 2.2	-1.4 ⊕ 1.9	-4.4 -2.6 ⊕	-16.2 -13.4 -9.6	1.1	4.7	11.1
7,7 JAP.	**Soft point** 11.7 gram / 180 grains Product no. 17722	.427	2493	2291	2099	1916	2485	2099	1761	1468	100 150 200	0.0 0.6 1.3	⊕ 1.1 2.6	-1.7 ⊕ 2.2	-5.1 -2.9 ⊕	-18.2 -14.9 -10.5	0.9	3.8	9.0
8x57 JS	**Soft point** 12.7 gram / 196 grains Product no. 18003	.305	2526	2244	1981	1737	2778	2192	1708	1314	100 150 200	0.0 0.6 1.4	⊕ 1.2 2.7	-1.7 ⊕ 2.3	-5.4 -3.1 ⊕	-19.8 -16.3 -11.6	1.3	5.4	13.0
	Oryx 12.7 gram / 196 grains Product no. 18004		Will be introduced during 1998																
	Vulkan 12.7 gram / 196 grains Product no. 18020	.347	2526	2276	2041	1821	2778	2256	1813	1443	100 150 200	0.0 0.6 1.3	⊕ 1.1 2.6	-1.7 ⊕ 2.2	-5.2 -3.0 ⊕	-18.9 -15.5 -11.0	1.1	4.7	11.2
8x57 JRS	**Oryx** 12.7 gram / 196 grains Product no. 18010		Will be introduced during 1998																
	Alaska 12.7 gram / 196 grains Product no. 18018	.296	2395	2112	1850	1611	2497	1942	1490	1130	100 150 200	0.1 0.8 1.7	⊕ 1.4 3.2	-2.1 ⊕ 2.7	-6.3 -3.6 ⊕	-22.9 -18.8 -13.4	1.5	6.0	14.8
.338 WIN. MAG.	**Nosler** 16.2 gram / 250 grains Product no. 18502	.478	2657	2470	2290	2118	3920	3387	2912	2490	100 150 200	-0.1 0.4 1.0	⊕ 0.9 2.1	-1.3 ⊕ 1.8	-4.2 -2.4 ⊕	-15.1 -12.4 -8.7	0.8	3.1	7.2
.358 NORMA MAG.	**Woodleigh** 16.2 gram / 250 grains Product no. 19005	.253	2799	2442	2112	1810	4350	3312	2478	1819	100 150 200	-0.1 0.3 1.0	⊕ 0.9 2.2	-1.3 ⊕ 1.9	-4.4 -2.6 ⊕	-16.6 -13.9 -10.0	1.4	5.7	13.9
9,3x57	**Vulkan** 15.0 gram / 232 grains Product no. 19305	.278	2329	2031	1757	1512	2795	2126	1591	1178	100 150 200	0.2 0.9 1.9	⊕ 1.5 3.5	-2.3 ⊕ 3.0	-7.0 -4.0 ⊕	-25.3 -20.8 -14.9	1.6	6.9	16.7
	Alaska 18.5 gram / 286 grains Product no. 19303	.365	2067	1857	1662	1484	2714	2190	1754	1399	100 150 200	0.4 1.4 2.5	⊕ 1.9 4.3	-2.9 ⊕ 3.6	-8.6 -4.8 ⊕	-29.9 -24.1 -17.0	1.4	6.0	14.2
9,3x62	**Vulkan** 15.0 gram / 232 grains Product no. 19317	.278	2625	2327	2049	1792	3551	2791	2164	1655	100 150 200	0.0 0.5 1.2	⊕ 1.0 2.5	-1.6 ⊕ 2.2	-5.0 -2.9 ⊕	-18.2 -15.1 -10.8	1.3	5.3	12.8
	Oryx 15.0 gram / 232 grains Product no. 19307	.267	2625	2294	1988	1708	3535	2700	2028	1497	100 150 200	-0.1 0.5 1.2	⊕ 1.1 2.5	-1.6 ⊕ 2.2	-5.1 -3.0 ⊕	-19.0 -15.8 -11.4	1.4	6.0	14.6
	Plastic point 18.5 gram / 286 grains Product no. 19314	.376	2362	2141	1931	1736	3544	2911	2370	1914	100 150 200	0.1 0.8 1.6	⊕ 1.3 3.1	-2.0 ⊕ 2.6	-6.1 -3.4 ⊕	-21.6 -17.6 -12.4	1.2	4.7	11.3
	Alaska 18.5 gram / 286 grains Product no. 19315	.365	2362	2135	1920	1720	3544	2894	2342	1879	100 150 200	0.1 0.8 1.7	⊕ 1.4 3.1	-2.0 ⊕ 2.6	-6.2 -3.5 ⊕	-21.8 -17.8 -12.5	1.2	4.8	11.7
9,3x74 R	**Vulkan** 15.0 gram / 232 grains Product no. 19321	.294	2625	2327	2049	1792	3551	2791	2164	1655	100 150 200	0.0 0.5 1.2	⊕ 1.0 2.5	-1.6 ⊕ 2.2	-5.0 -2.9 ⊕	-18.2 -15.1 -10.8	1.2	5.3	12.7
	Oryx 15.0 gram / 232 grains Product no. 19328	.251	2526	2191	1883	1605	3274	2463	1819	1322	100 150 200	0.0 0.7 1.5	⊕ 1.2 2.9	-1.9 ⊕ 2.5	-5.8 -3.3 ⊕	-21.5 -17.8 -12.8	1.6	6.7	16.1
	Alaska 18.5 gram / 286 grains Product no. 19320	.365	2362	2135	1920	1720	3544	2894	2342	1879	100 150 200	0.1 0.8 1.7	⊕ 1.4 3.1	-2.0 ⊕ 2.6	-6.2 -3.5 ⊕	-21.8 -17.7 -12.5	1.2	4.9	11.6
	Plastic point 18.5 gram / 286 grains Product no. 19325	.365	2362	2135	1920	1720	3544	2894	2342	1879	100 150 200	0.1 0.8 1.7	⊕ 1.4 3.1	-2.0 ⊕ 2.6	-6.2 -3.5 ⊕	-21.8 -17.7 -12.5	1.2	4.8	11.6
.375 H&H MAG.	**Soft point** 19.4 gram / 300 grains Product no. 19502	.257	2549	2211	1900	1619	4329	3258	2406	1747	100 150 200	0.0 0.6 1.4	⊕ 1.2 2.8	-1.8 ⊕ 2.5	-5.7 -3.3 ⊕	-21.1 -17.5 -12.6	1.6	6.6	16.0
	TXP Line, Swift 19.4 gram / 300 grains Product no. 19503	.325	2559	2296	2049	1818	4363	3513	2798	2203	100 150 200	0.0 0.5 1.3	⊕ 1.1 2.6	-1.6 ⊕ 2.2	-5.1 -2.9 ⊕	-18.6 -15.3 -10.9	1.2	4.9	11.6
.416 RIGBY	**TXP Line, Swift** 25.9 gram / 400 grains Product no. 11069	.367	2350	2127	1917	1721	4906	4021	3266	2632	100 150 200	0.1 0.7 1.6	⊕ 1.3 3.1	-2.0 ⊕ 2.6	-6.1 -3.5 ⊕	-21.7 -17.7 -12.5	1.2	4.8	11.4
.458 WIN.	**TXP Line, Swift** 32.4 gram / 500 grains Product no. 11120	.361	2116	1903	1705	1524	4972	4023	3228	2578	100 150 200	0.3 1.2 2.4	⊕ 1.8 4.1	-2.7 ⊕ 3.4	-8.1 -4.5 ⊕	-28.2 -22.8 -16.1	1.4	5.7	13.6

All Norma velocity and striking energy data for hunting cartridges have been obtained in 2.4 inch test barrels. If your barrel is longer or shorter than 2.4 inch, as a rule of thumb, your muzzle velocity changes by 2-3 feet/s. for each 4.0 inch difference. The velocity increases in longer barrels and decreases in shorter. Muzzle velocity of a cartridge also varies from gun to gun, due to different barrel material, length, wear, inside dimensions etc. Therefore, all data and tables should be considered guides only. Our ballistics data are obtained in barrels representing averages of those available on the market. We calibrate our barrels according to international standards (CIP). We recommend that you zero-in your gun after each change of ammunition.

Amendment: The test barrels are 24 inch. If your barrel is longer or shorter than 24 inch, as a rule of thumb, your muzzle velocity changes by 15-25 f/s per inch difference.

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